

REMARKS and ARGUMENTS

This amendment responds to the Office action dated September 04, 2008.

Claims 1-5 are pending in the application.

Claims 1 and 3-5 are independent claims. Claim 2 depends from claim 1 and, therefore, comprises all the limitations therein.

Claims 1, 3 and 5 have been amended.

The examiner has objected to claim 1 due to grammatical informalities. The appropriate correction to claim 1 has been made, and the applicant requests this objection to claim 1 be withdrawn.

The examiner has rejected claims 1, 2 and 4 under 35 U.S.C. §103(a) as being unpatentable over Burns et al., U.S. Patent No. 5,995,518, hereinafter "Burns," in view of Hakenberg et al., U.S. Patent Application Publication No. 2004/0025184, hereinafter "Hakenberg," and further in view of Krishnamurthy et al., U.S. Patent No. 6,665,872, hereinafter "Krishnamurthy."

Independent claim 1 has been amended to correct grammatical informalities.

Independent claim 1 comprises the element of:

"deriving from that engaged data stream, two downstream-deliverable video data streams that are characterized by differing, respective access latencies and resolutions, one of which downstream-deliverable video data streams is characterized, relatively speaking, by a low access latency and a low resolution, and the other of which is characterized, in

comparison, by a higher access latency and a higher resolution,”
which is not taught in the combination of Burns, Hakenberg and Krishnamurthy.

Independent claim 4 is a system claim corresponding to the method claim of independent claim 1, and independent claim 4 correspondingly comprises the element of:

“deriving structure operatively connected to said engaging structure, operable to derive two, downstream-deliverable video data streams from such an engaged source data stream, wherein said two, downstream-deliverable video data streams are characterized by differing, respective access latencies and resolutions, one of which downstream-deliverable video data streams is characterized, relatively speaking, by a low access latency and a low resolution, and the other of which is characterized, by comparison, by a higher access latency and a higher resolution,”

which is not taught in the combination of Burns, Hakenberg and Krishnamurthy.

Concerning these elements of independent claims 1 and 4, the combination of Burns, Hakenberg and Krishnamurthy does not teach or suggest deriving, from a source data stream, two video data streams, wherein one of the two video data streams is associated with lower access latency and lower resolution than the other video data stream.

Of the three cited references, Burns is the only reference teaching separation of information into two components. Burns teaches separating information into two components in order to transmit the information over two communication channels, wherein the two communication channels have different communication latencies [at least, column 1, line 63 – column 2, line 30]. The separation of information taught in

Burns is based solely on the perceived delay associated with each component of the information, wherein the delay is the delay introduced by the respective communication channel [at least, Figure 2, column 6, lines 23-44]. Burns does not teach or suggest deriving two video data streams from a source data stream, where each of the two video data streams has a different access latency and video resolution. Furthermore, neither of the two additionally cited references teaches modifying the separation as taught by Burns to include derivation of two video data streams from a source data stream, where each of the two video data streams has a different access latency and video resolution.

Hakenberg does not teach or suggest derivation of two video data streams from a source data stream. The methods and systems disclosed in Hakenberg teach retransmission of data in response to data loss due to an unreliable communication channel. There is no teaching of deriving multiple data streams from a source data stream according to access latency and resolution.

Krishnamurthy does not teach or suggest derivation of information for transmission at all. Krishnamurthy teaches transmission of video streams corresponding to different video applications over a single shared communication channel, wherein a multiplexer and traffic controller takes into account the differing latency requirements of the various video applications [at least, column 2, line 66 – column 3, line 11].

Additionally, the currently claimed embodiments of the applicant's invention comprise deriving two video data streams, wherein each of the two video data streams has differing inherent access latency due to differing positioning of I-frames.

Particularly, claim 1 comprises the element of:

“wherein, relatively speaking, said low access latency is associated with more closely spaced I-frames in said one downstream-deliverable video data stream in comparison to more widely separated I-frames in said other downstream-deliverable video data stream;”

and claim 4 comprises the element of:

“wherein, relatively speaking, said low access latency is associated with more closely spaced I-frames in said one downstream-deliverable video data stream in comparison to more widely separated I-frames in said other downstream-deliverable video data stream;”

neither of which is taught in any combination of the cited references.

In the currently claim embodiments of the applicant's present invention, the relative access latency is based on the relative spacing of I-frames, and the access delay is not a delay introduced by the communication channel, but is a by-product of the I-frame spacing. Thus, it is access latency, as opposed to communication latency, and the access latency is present regardless of the communication channel. The examiner states that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided transmission of *only* [emphasis added] I-frames as taught by Hakenberg to the system of Burns to keep the latency to a reasonable (low) range (paragraph [0011]).” Hakenberg teaches retransmission of I frames due to channel

losses. There is no teaching in Hakenberg of controlling access latency by I-frame separation. Additionally, transmitting only I-frames in a system according to Burns is not related to generating two data streams with differing access latencies based on I-frame separation and resolution.

The teachings of Burns are related to separation of information to be transmitted on different channels based on the perceived delay of the information. The currently claimed embodiments of the applicant's invention are related to transmitting two video data streams with differing access latencies, wherein each of the two video data streams is derived from the source data stream. Thus, the two video data streams are two representations of the source data stream in the currently claimed embodiments of the applicant's invention. Whereas, the components of Burns are separate components of the information to be transmitted. The components of Burns may be combined to form the desired information. The two video data streams of the currently claimed embodiments of the applicant's invention are separate representations of the source data. There is no teaching in Burns, or the combination of Burns, Hakenberg and Krishnamurthy, to derive two video data streams, as described in the above-listed claim elements, of this nature.

Additionally, the combination of Burns and Krishnamurthy requires modification of Burns to using a single transmission channel, wherein Krishnamurthy controls the transmission over the shared channel based on the latency requirement of various video applications. The information components of Burns are related to one application, thereby providing no basis for control. The contribution of Hakenberg is lost-data retransmission comprising only I frames which does not combine with Burns and

Krishnamurthy to provide transmission control, further rendering the combination non-functional.

Based on the lack of teaching of the above-listed claim elements in the combination of Burns, Hakenberg and Krishnamurthy, independent claims 1 and 4 are allowable in their current form. The applicant respectfully requests the rejection of these claims be withdrawn.

Claim 2, which depends from claim 1, and, therefore, comprises all the limitations therein, is currently allowable based on amended claim 1. The applicant respectfully requests this rejection of claim 2 be withdrawn.

The examiner has rejected claims 3 and 5 under 35 U.S.C. §103(a) as being unpatentable over Burns et al., U.S. Patent No. 5,995,518, hereinafter "Burns," in view of Hakenberg et al., U.S. Patent Application Publication No. 2004/0025184, hereinafter "Hakenberg," and further in view of Lin et al., U.S. Patent Application Publication No. 2002/0095681, hereinafter "Lin."

Independent claim 3 and independent claim 5 have been amended to correct minor grammatical informalities.

As amended, independent claims 3 and 5 comprise the element of:

"compressed video data which is characterized by a pair of prior-derived video data streams, one of which is further characterized by one access latency and one resolution, and the other of which is further characterized by another access latency which is larger than the mentioned one access latency, and another resolution which is larger than the mentioned one resolution, and where such access latencies are differentiated by different time spacings that exist between designated video

I-frames which are placed in the data streams, with larger spacings between such I-frames relating to larger access latencies, and with smaller spacings between such I-frames relating to smaller access latencies,”
which is not disclosed in the cited combination of references.

As argued above, the combination of Burns and Hakenberg does not teach deriving two video data streams with differing access latencies, wherein access latency is differentiated by I-frame spacing. Nor does the combination of Burns, Hakenberg and Lin teach this element. Lin teaches an apparatus and method of transmitting and switching multimedia data over an Ethernet network [at least, ABSTRACT].

Additionally, independent claim 3 comprises the elements of:

“seeking access to the received, two-video-data-stream characterized video data,
in relation to said seeking, monitoring the two, associated video data streams to detect the first occurrence in either stream of an I-frame,
on detecting such an occurrence, selecting the associated data stream to be the source for a viewable output stream, and
(a) if the first detected occurrence involves an I-frame in the mentioned other video data stream, ending the monitoring and selecting process, but
(b) if the first detected occurrence involves an I-frame in the mentioned one video data stream, continuing to monitor the other video data stream to detect therein the first next occurrence of an I-frame, and on that detection taking place, switching to and selecting that other video data stream to be the source for a viewable output stream, and then ending the monitoring and selecting process.”

These elements are not taught in the cited combination of art. Specifically, neither Burns nor Hakenberg disclose monitoring data for I-frames, or other marker frames. Lin teaches reserving channel path based on channel allocation priority data, and transmitting higher priority data and blocking lower priority data [at least, paragraphs [0049], [0050]]. Lin teaches sending channel allocation priority data in a payload addressed to a master switch [paragraph [0049]]. This action is not monitoring. It is address-directed receipt of priority data.

The cited combination of art does not teach setting a source for a viewable output stream based on the occurrence of I-frames. Further, the combination does not teach ending monitoring when an I-frame in a higher access latency video data stream is received.

Independent claim 5 is an apparatus claim corresponding to the method claim of independent claim 3. Claim 5 comprises corresponding elements as those stated above in reference to claim 3, and the argument holds for claim 5 also.

Based on these arguments, the applicant therefore requests this rejection of claims 3 and 5 be withdrawn.

In light of the arguments above, all claims are considered to be novel, non-obvious and patentable in view of the cited art. The applicant respectfully requests that the examiner reconsider the rejections of these claims. The examiner is invited to contact applicant's patent agent directly for any reason.

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Based on the foregoing amendments and remarks, the applicant respectfully requests reconsideration and allowance of the present application.

Respectfully submitted,

/Kristine Elizabeth Matthews/

Kristine Elizabeth Matthews

Reg. No. 60,040

Tel. No.: (360) 210-4764